

AMENDMENTS IN THE CLAIMS

1. (currently amended) A method for re-sequencing packets comprising:
 - a) in each ingress port-adaptor (200), inserting a packet rank (PR) into each packet (210) to be switched through a parallel packet switch (250);
 - b) switching the ranked packets through the parallel packet switch; and
 - in each egress port-adaptor (260):
 - c) reading out (600) the switched packets from the parallel packet switch;
 - d) storing (605) the switched packets read out from the parallel packet switch into an egress buffer (265);
 - e) selecting the oldest packet (403) of each of sets of packets stored in the egress port-adaptor, each set being comprised of packets coming from the same switching plane and the same ingress port-adaptor, wherein selecting the oldest packet comprises: e1) forming a plurality of linked lists (310) of egress buffer addresses, each linked list containing the egress buffer addresses of the packets switched through a same said switching plane and coming from the same ingress port-adaptor; and e2) selecting the oldest address of each of the linked lists;
 - f) selecting the oldest packet (420) of the oldest packets selected in e) and which come from the same ingress port-adaptor, according to the value of their packet ranks, for each ingress port-adaptor, thereby providing a subset of older packets, each subset corresponding to an ingress port adaptor;
 - g) validating the content of each subset (1030); and
 - h) selecting the packet to exit the egress port-adaptor among the subsets validated in g).
2. (canceled_
3. (currently amended) The method according to claim [[2]] 1 further comprising associating to each linked list a valid condition which is made active when the linked list is active.

4. (currently amended) The method according to claim 1 further comprising:
e3) associating to each packet a packet identifier representative of a regular, idle or exception status; and

e4) associating to each linked list a wildcard condition which is made active whenever at least one of the valid conditions associated to the linked lists sharing a same said source, is active, and an idle packet is read out from the parallel packet switch.

5. (original) The method according to claim 1 wherein g) comprises validating a subset of older packets originated from a same ingress port-adaptor when either one of the valid condition or corresponding wildcard condition is valid for all switching planes.

6. (currently amended) The method according to claim 1 further comprising:

i) forwarding the packet selected in h); and

j) resetting [[the]] a set of wildcard conditions associated to the same ingress adapter as the forwarded packet.

7. (currently amended) The method according to claim 1 further comprising:

k) incrementing a waiting packet counter (WPC) each time a packet is received by the egress adapter from the same ingress adapter; and

each time a packet is forwarded:

l) decrementing the waiting packet counter associated to the same ingress adapter as the forwarded packet; and

m) resetting the corresponding valid condition and setting the value of the packet rank of the oldest packet addressed by [[the]] a corresponding linked list to its maximum, if the value of the associated waiting counter is null.

8. (currently amended) A method for re-sequencing packets carrying a priority which have been switched through the parallel packet switch comprising:

a) in each ingress port-adaptor, inserting a packet rank into each packet to be switched through the parallel packet switch;

b) switching the ranked packets through the parallel packet switch; and in each egress port-adaptor:

- c) reading out the switched packets from the parallel packet switch;
- d) storing the switched packets read out from the parallel packet switch into an egress buffer;
- e) selecting the oldest packet of each sets of packets stored in the egress port-adaptor, each set being comprised of packets coming from the same switching plane, the same ingress port-adaptor with the same priority wherein selecting the oldest packet comprises: e1) forming a plurality of linked lists of egress buffer addresses, each linked list containing the egress buffer addresses of the packets switched through a same said switching plane, from a same ingress port-adaptor at a same said priority; and e2) selecting the oldest address of each of the linked lists;
- f) selecting the oldest packet of the oldest packets selected in e) and which come from the same ingress port-adaptor with the same priority, according to the value of their packet ranks, for each ingress port-adaptor and each priority, thereby providing a subset of older packets, each subset corresponding to an ingress port-adaptor and a priority;
- g) validating the content of each subset; and
- h) selecting the packet to exit the egress port-adaptor among the subsets validated in g).

9. (canceled)

10. (currently amended) The method according to claim [[9]] 8 further comprising associating to each linked list a valid condition which is made active when the linked list is active.

11. (original) The method according to claim 10 further comprising:

- i) associating to each packet a packet identifier representative of a regular, idle or exception status; and
- j) associating to each linked list a wildcard condition which is made active whenever at least one of the valid conditions associated to the linked list sharing a same said source and a same said priority, is active, and an idle packet is read out from the parallel switch or a regular packet having a priority lower than the one associated to the wildcard latch, is read out from the parallel packet switch.

12. (original) The method according to claim 11 wherein g) further comprising validating a subset of older packets originated from a same ingress port-adaptor with same priority when either one of the valid condition or corresponding wildcard condition is valid for all switching planes.

13. (original) The method according to claim 11 further comprising:
k) forwarding the packet selected in h) of claim 8; and
l) resetting the set of-wildcard conditions associated to the same ingress adapter and same priority as the forwarded packet.

14. (original) The method according to claim 10 further comprising:
m) incrementing a waiting packet counter (WPC) each time a packet is received by the egress adapter from the same ingress adapter with the same priority; and
each time a packet is forwarded:
n) decrementing the waiting packet counter associated to the same ingress adapter and same priority as the forwarded packet; and
o) resetting the corresponding valid condition and setting the value of the packet rank of the oldest packet addressed by the corresponding linked list to its maximum, if the value of the associated waiting counter is null.

15-17. (canceled)

18. (currently amended) A method for resequencing packets comprising:
a) receiving in at least one egress adapter switched packets;
b) selecting oldest packet from each of sets of packets, each set being comprised of packets coming from a common switching plane and a common ingress adapter; and
c) selecting oldest packet of the oldest packets selected in b) to provide a subset of oldest packets, wherein selecting oldest packet comprises: forming a plurality of linked lists of egress buffer addresses, each linked list containing the egress buffer addresses of the packets switched through a same said switching plane, from a same ingress port-adaptor at a same said priority; and selecting the oldest address of each of the linked lists.

19. (original) The method of claim 18 further including validating contents of each subset; and selecting a packet to exit among the subsets so validated.